

## II. AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions and listings.

### **LISTING OF CLAIMS:**

Claims 1-26 (canceled).

Claim 27 (currently amended) A method of increasing Coenzyme A (CoA) flux, comprising:

- a) generating a bacterial cell comprising:
  - i) a ~~first~~ recombinant *panK* gene encoding pantothenate kinase (*PanK PANK*);
  - ii) a ~~second~~ recombinant *pdh* gene encoding pyruvate dehydrogenase (PDH), and
  - iii) a ~~third~~ recombinant *atf* gene encoding alcohol acetyl transferase (ATF);
- b) culturing said cell in a cell medium comprising pantothenic acid under conditions wherein said recombinant *panK*, *pdh* and *atf* genes are expressed, thereby increasing CoA flux relative to said bacterial cell without said recombinant *panK*, *pdh* and *atf* genes.

Claim 28 (previously presented) The method of claim 27, wherein the bacterial cell further comprises reduced activity of *ackA*, or *pta*, or both *ackA-pta*.

Claim 29 (previously presented) The method of claim 27, where the *panK* gene is under the control of the *lac* promoter and the *atf* gene is under the control of the *ptb* promoter.

Claim 30 (previously presented) The method of claim 27, wherein said cell is cultured in a bioreactor, fermentor, chemostat, or shaker-flask culture.

Claim 31 (previously presented) The method of claim 27, wherein increasing said CoA flux increases conversion of an alcohol to an ester.

Claim 32 (currently amended) A method of increasing Coenzyme A (CoA) flux comprising:

- a) generating a bacterial cell comprising:

- i) a combination of recombinant *panK* and *pdh* and *atf* genes encoding alcohol pantothenate kinase (PanK PANK) and pyruvate dehydrogenase (PDH) and alcohol acetyl transferase (ATF), respectively;

- ii) reduced activity of *ackA*, or *pta*, or both *ackA-pta*;

culturing said cell in a medium comprising pantothenic acid and isoamyl alcohol under conditions wherein said combination of recombinant genes is expressed, thereby increasing CoA flux, and thereby increasing production of an isoamyl acetate.

Claim 33 (currently amended) The method of claim 3432, where the *panK* gene is under the control of the *lac* promoter and the *atf* gene is under the control of the *ptb* promoter.